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EXAMINER	
TIMORY, KABIR A	

ART UNIT	PAPER NUMBER
2609	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/725,126	TYLDESLEY ET AL.	
	Examiner	Art Unit	
	Kabir A. Timory	2609	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 December 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3,4,7-10,14-23 and 27-29* is/are rejected.

7)☒ Claim(s) *2,5,6,11-13,24-26,30 and 31* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *01 December 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *12/1/2003*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because figures 1-27 are handwritten and unclear. Applicant is advised to employ the services of a competent patent draftsperson outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Claim Objections

2. Claims 16-26 are objected to because of the following informalities:

(1) Claim 16, line 1: Please change **"coder/decoder"** to a specific limitation. It is unclear whether **"/"** suggests **"and"** or **"or"**.

(2) Claim 17, line 1: Please change **"coder/decoder"** to a specific limitation. It is unclear whether **"/"** suggests **"and"** or **"or"**.

(3) Claim 17, line 1: Please change **"compensation/estimation"** to a specific limitation. It is unclear whether **"/"** suggests **"and"** or **"or"**.

(4) Claim 18, line 1: Please change **"coder/decoder"** to a specific limitation. It is unclear whether **"/"** suggests **"and"** or **"or"**.

(5) Claim 19, line 1: Please change **"coder/decoder"** to a specific limitation. It is unclear whether **"/"** suggests **"and"** or **"or"**.

(6) Claim 20, line 1: Please change **"coder/decoder"** to a specific limitation. It is unclear whether **"/"** suggests **"and"** or **"or"**.

(7) Claim 21, line 1: Please change **"coder/decoder"** to a specific limitation. It is unclear whether **"/"** suggests **"and"** or **"or"**.

(8) Claim 22, line 1 and 4: Please change **"coder/decoder"** to a specific limitation. It is unclear whether **"/"** suggests **"and"** or **"or"**.

(9) Claim 23, line 1: Please change **"coder/decoder"** to a specific limitation. It is unclear whether **"/"** suggests **"and"** or **"or"**.

(10) Claim 24, line 1: Please change **"coder/decoder"** to a specific limitation. It is unclear whether **"/"** suggests **"and"** or **"or"**.

(11) Claim 25, line 1: Please change **"coder/decoder"** to a specific limitation. It is unclear whether **"/"** suggests **"and"** or **"or"**.

(12) Claim 26, line 1: Please change **"coder/decoder"** to a specific limitation. It is unclear whether **"/"** suggests **"and"** or **"or"**.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1, 3, 4, 7, 9, 11, 14-19, 21-23 and 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Irvine et al. (US Pub Number 2002/0191695) in view of Wu et al. (US Patent Number 7,016,337).

Regarding claim 1:

As shown in figure 1, Irvine et al. a method of facilitating transmission of video frames over multiple channels in a communication system, said method comprising:

- for each of said video frames, generating frame data representative of said each video frame (paragraph 0011, lines 1-7 & paragraph 0028, lines 1-8);
- transforming said frame data to obtain transform coefficients of said frame data (paragraph 0008, lines 5-8 and paragraph 0026, lines 13-15);
  assembling quadtrees of said transform coefficients, each of said quadtrees including a group of said transform coefficients associated with an equivalent spatial location in said each video frame (paragraph 0042, lines 1-12);
- separately coding said quadtrees to form coded quadtree coefficient groups (paragraph 0042, lines 1-12)

Irvine et al. discloses all of the subject matter as described above except for specifically teaching distributing said coded quadtree coefficient groups among said multiple channels for transmission.

However, Wu et al., in the same field of endeavor, teaches distributing said coded quadtree coefficient groups among said multiple channels for transmission (figure 5B, abstract).

One of ordinary skill in the art would have clearly recognized that transmission of digital data such as video requires significant amount of bandwidth. Typically wireless channels exhibits a lower bandwidth and higher error rate than wired channels. In order to provide improved errore rate and more bandwidth for tranmission of digital data such as video, it would have been obvious to one ordinary skill in the art at the time the invention was made to use plurality of traffic channels for video transmission taught by Wu et al. in the video transmission of the system above. By using multiple channels for transmission of digital date, we improve the quality of service and transmit the video signal with less error rate.

Regarding claim 3:

Irvine et al. further discloses:

- said generating operation generates said frame data and motion vectors (paragraph 0009, lines 4-15); and

said method further comprises:

- forming blocks of said motion vectors (paragraph 0009, lines 4-15);
- separately coding said blocks to form coded motion vector blocks (paragraph 0009, lines 4-15); and
- distributing said coded motion vector blocks (the compressed image signal is interpreted to be motion vector blocks) (paragraph 0053, lines 1-3) among said multiple channels for transmission.

Irvine et al. discloses all of the subject matter as described above except for specifically teaching distributing among multiple channels transmission.

However, Wu et al., in the same field of endeavor, teaches distributing among multiple channels transmission (figure 5B, abstract).

One of ordinary skill in the art would have clearly recognized that transmission of digital data such as video requires significant amount of bandwidth. Typically wireless channels exhibits a lower bandwidth and higher error rate than wired channels. In order to provide improved errore rate and more bandwidth for tranmission of digital data such as video, it would have been obvious to one ordinary skill in the art at the time the invention was made to use plurality of traffic channels for video transmission taught by Wu et al. in the video transmission of the system above. By using multiple channels for transmission of digital date, we improve the quality of service and transmit the video signal with less error rate.

Regarding claim 4 and 19:

Irvine et al. further discloses:

utilizing a Huffman coding algorithm to obtain said coded motion vector blocks (paragraph 0044, lines 1-2).

Regarding claim 7:

Irvine et al. further discloses:

forming said quadtrees into 16 x 16 coding blocks prior to said coding operation (paragraph 0025, lines 3-8).

Regarding claim 9 and 28:

Irvine et al. discloses all of the subject matter as described above except for specifically teaching assembling said coded quadtree coefficient groups into packets;

for each of said packets, assigning one of said multiple channels for transmission of said each packet; and forwarding said each packet toward said assigned one of said multiple channel.

However, Wu et al., in the same field of endeavor, teaches assembling said coded quadtree coefficient groups into packets (column 5, lines 15-17);
for each of said packets, assigning one of said multiple channels for transmission of said each packet (figure 5B); and
forwarding said each packet toward said assigned one of said multiple channels (figure 5B).

One of ordinary skill in the art would have clearly recognized that transmission of digital data such as video requires significant amount of bandwidth. These digital data can be transmitted as packets. Typically wireless channels exhibits a lower bandwidth and higher error rate than wired channels. In order to provide improved errore rate and more bandwidth for tranmission of digital data such as video or packets, it would have been obvious to one ordinary skill in the art at the time the invention was made to use plurality of traffic channels for video transmission taught by Wu et al. in the video transmission of the system above. By using multiple channels for transmission of digital date, we improve the quality of service and transmit the video signal with less error rate.

Regarding claim 10, 21, and 29:

Irvine et al. discloses all of the subject matter as described above except for specifically teaching assembling said coded quadtree coefficient groups into packets; attaching a packet identifier to each of said packets prior to said distributing operation;

receiving said packets at a decoder via said multiple channels; and
reconstructing said each video frame at said decoder from said received packets in response to said packet identifier.

However, Wu et al., in the same field of endeavor, teaches assembling said coded quadtree coefficient groups into packets (column 5, lines 15-17); attaching a packet identifier to each of said packets prior to said distributing operation (column 13, lines 53-56); receiving said packets at a decoder (figure 7, 706) via said multiple channels (figure 5C); and reconstructing said each video frame at said decoder from said received packets in response to said packet identifier.

One of ordinary skill in the art would have clearly recognized that transmission of digital data such as video requires significant amount of bandwidth. These digital data can be transmitted as packets. To identify each packet for transmission, additional bits are added to the beginning for each packet frame. These idenfication bits are used for identifying transmitted video type or data type. Typically wireless channels exhibits a lower bandwidth and higher error rate than wired channels. In order to provide improved errore rate and more bandwidth for tranmission of digital data such as video or packets, it would have been obvious to one ordinary skill in the art at the time the invention was made to use plurality of traffic channels for video transmission taught by Wu et al. in the video transmission of the system above. By using multiple channels for transmission of digital date, we improve the quality of service and transmit the video signal with less error rate.

Regarding claim 14 and 23:

Irvine et al. discloses all of the subject matter as described above except for specifically teaching adaptively buffering said received packets.

However, Wu et al., in the same field of endeavor, teaches adaptively buffering said received packets (figure 7, 704).

One of ordinary skill in the art would have clearly recognized in order to receive and store compressed data or packets from respective encoder for a respective channel a storage mechanism such as buffer is used. To provide temporary storage of the packets and bit stream before decoding, it would have been obvious to one ordinary skill in the art at the time the invention was made to include a buffer in the system taught by Wu et al. in the video transmission of the system above. Using a buffer is advantageous because the buffer ensures that there are enough scenes from the compressed bit stream and packets to perform decoding.

Regarding claim 15:

Irvine et al. discloses all of the subject matter as described above except for specifically teaching wherein said communication system is a satellite-based communication network and said multiple channels are wireless voice channels managed by said satellite-based communication network.

However, Wu et al., in the same field of endeavor, teaches wherein said communication system is a satellite-based communication network and said multiple channels are wireless voice channels managed by said satellite-based communication network (figure 5A, column 1, lines 20-27).

One of ordinary skill in the art would have clearly recognized there are presently a variety of different communication channels for transmitting or transporting video data. For instance, communication channels such as satellite communication and wireless digital communication are all well known for transmission of voice, data and video. The communication between two devices is established by using a communication channel such as traffic channel. To provide connection and communication links between devices, it would have been obvious to one ordinary skill in the art at the time the invention was made to establish the transmission links by using mechanism such as satellite and wireless channels as taught by Wu et al. in the video transmission of the system above. Using wireless and satellite channels are advantageous because they convey properly formatted digital information from one point to another.

Regarding claim 16:

Irvine et al. further discloses:

- an input for receiving each of said video frames (paragraph 0057, lines 4-5);
- a processor in communication with said input for generating frame data representative of said each video frame (paragraph 0064, lines 7-13);
- a wavelet transformer in communication with said processor for transforming said frame data to obtain wavelet coefficients of said frame data (paragraph 0008, lines 5-8);
- a quadtree-based compressor for receiving said wavelet coefficients and assembling quadtrees of said wavelet coefficients, each of said quadtrees including a group of

wavelet coefficients associated with an equivalent spatial location in said each video frame (paragraph 0042, lines 1-12);

- a coder (figure 1, 118) for separately coding said quadtrees to form coded quadtree coefficient groups (paragraph 0029, lines 4-14); and
- an output interface (figure 1) in communication with said coder for receiving said coded quadtree coefficient groups, said output interface assigning said coded quadtree coefficient groups (paragraph 0029, lines 4-14) to said multiple channels such that adjacent portions of said frame data will be transmitted over different ones of said multiple channels.

Irvine et al. discloses all of the subject matter as described above except for specifically teaching multiple channels such that adjacent portions of said frame data will be transmitted over different ones of said multiple channels.

However, Wu et al., in the same field of endeavor, teaches multiple channels such that adjacent portions of said frame data will be transmitted over different ones of said multiple channels (figure 5B, abstract).

One of ordinary skill in the art would have clearly recognized that transmission of digital data such as video requires significant amount of bandwidth. Typically wireless channels exhibits a lower bandwidth and higher error rate than wired channels. In order to provide improved errore rate and more bandwidth for tranmission of digital data such as video, it would have been obvious to one ordinary skill in the art at the time the invention was made to use plurality of traffic channels for video transmission as taught by Wu et al. in the video transmission of the system above. By using multiple channels

for transmission of digital date, we improve the quality of service and transmit the video signal with less error rate.

Regarding claim 17:

Irvine et al. further discloses:

said processor comprises a motion compensation/estimation processor for generating said frame data and motion vectors representative of said each video frame (paragraph 0009, lines 4-15).

Regarding claim 18:

Irvine et al. discloses all of the subject matter as described above except for specifically teaching said coder is a first coder, and said system further comprises:

- a splitter in communication with said processor for receiving said motion vectors and partitioning said motion vectors into blocks of motion vectors;

a second coder for receiving said blocks of motion vectors and separately coding said blocks of motion vectors to form coded motion vector blocks, said second coder having an output in communication with said output interface, said output interface assigning said coded motion vector blocks to said multiple channels such that adjacent ones of said motion vector blocks will be transmitted over different ones of said multiple channels.

However, Wu et al., in the same field of endeavor, teaches said coder is a first coder, and said system further comprises:

- a splitter (figure 5C, 509) in communication with said processor (software processing on general-purpose computers is interpreted to be a processor) (column 9, lines 51-

57) for receiving said motion vectors and partitioning said motion vectors into blocks of motion vectors (column 8, lines 53-58);

- a second coder (figure 5B, 502a-n) for receiving said blocks of motion vectors and separately coding said blocks of motion vectors to form coded motion vector blocks, said second coder having an output in communication with said output interface, said output interface assigning said coded motion vector blocks to said multiple channels such that adjacent ones of said motion vector blocks will be transmitted over different ones of said multiple channels (column 8, lines 5-16).

One of ordinary skill in the art would have clearly recognized that in a video transmission system using multiple channel for transmission, a splitter is required to receives a signal from the transport medium and demodulates, splits and converters it into a plurality of signals on different channels. Also, plurality of encoders are used to receive a respective one of the plurality of video channels and to compresses the received video sequences to produce a compressed bit stream. In order to provide transmit and receive video and digital data via plurality of communication channel, it would have been obvious to one ordinary skill in the art at the time the invention was made to use splitter and plurality of encoders as taught by Wu et al. in the video transmission of the system above. By using splitter and plurality of encoders, it is possible to transmit and receive video data using multiple communication channels.

Regarding claim 22:

Irvine et al. discloses all of the subject matter as described above except for specifically teaching:

- an input interface for receiving transmitted packets of coded quadtree coefficient groups from a second coder and/or decoder system via said multiple channels;
- buffer elements in communication with said input interface, one each of said buffer elements being associated with one each of said multiple channels, said input interface forwarding said transmitted coded quadtree coefficient groups received at ones of said multiple channels toward said buffer elements associated with said ones of said multiple channels; and
- a decoder in communication with said buffer elements for receiving said transmitted coded quadtree coefficient groups and reconstructing second video frames represented by said transmitted coded quadtree coefficient groups.

However, Wu et al., in the same field of endeavor, teaches

- an input interface for receiving transmitted packets of coded quadtree coefficient groups from a second coder and/or decoder system via said multiple channels (figure 5B);
- buffer elements (figure 10, 1010a-n) in communication with said input interface (figure 10, 824a-n), one each of said buffer elements being associated with one each of said multiple channels, said input interface forwarding said transmitted coded quadtree coefficient groups received at ones of said multiple channels toward said buffer elements associated with said ones of said multiple channels (compressed data is interpreted to be transmitted coded quadtree coefficients) (figure 10); and

- a decoder (figure 7, 706) in communication with said buffer elements (figure 7, 704) for receiving said transmitted coded quadtree coefficient groups and reconstructing second video frames represented by said transmitted coded quadtree coefficient groups (compressed data is interpreted to be transmitted coded quadtree coefficients) (figure 10).

One of ordinary skill in the art would have clearly recognized that to receive and store compressed data or packets from respective encoder for a respective channel a storage mechanism such as buffer is used. To input multiple received signals via multiple communication channels, multiple buffer elements are used for temporarily storing compressed data or packets. To provide temporary storage of the packets and bit stream before decoding, it would have been obvious to one ordinary skill in the art at the time the invention was made to include a buffer in the system taught by Wu et al. in the video transmission of the system above. Using a buffer is advantageous because the buffer ensures that there are enough scenes from the compressed bit stream and packets to perform. Moreover, the decoder performs the inverse function of compressor and provides the uncompressed video data ready for use.

Regarding claim 27:

Irvine et al. further discloses:

- for each of said video frames, generating frame data and motion vectors representative of said each video frame (paragraph 0011, lines 1-7);
- transforming said frame data to obtain transform coefficients of said frame data (paragraph 0008, lines 5-8);

assembling quadtrees of said transform coefficients, each of said quadtrees including a group of said transform coefficients associated with an equivalent spatial location in said each video frame (paragraph 0042, lines 1-12);

separately coding said quadtrees to form coded quadtree coefficient groups;

forming blocks of said motion vectors (paragraph 0042, lines 1-12);

separately coding said blocks to form coded motion vector blocks (paragraph 0042, lines 1-12).

Irvine et al. discloses all of the subject matter as described above except for specifically teaching distributing said coded quadtree coefficient groups and said coded motion vector blocks among said multiple channels for transmission, said distributing operation including:

- assigning said coded quadtree coefficient groups to said multiple channels such that contiguous portions of said frame data will be transmitted over different ones of said multiple voice channels; and
- assigning said coded motion vectors to said multiple channels such that adjacent portions of said motion vectors will be transmitted over different ones of said multiple voice channels.

However, Wu et al., in the same field of endeavor, teaches distributing said coded quadtree coefficient groups and said coded motion vector blocks among said multiple channels for transmission (figure 5B, abstract). said distributing operation including:

- assigning said coded quadtree coefficient groups to said multiple channels such that contiguous portions of said frame data will be transmitted over different ones of said multiple voice channels (figure 5B, Ch1-CHn); and
- assigning said coded motion vectors to said multiple channels such that adjacent portions of said motion vectors will be transmitted over different ones of said multiple voice channels (figure 5B, Ch1-CHn).

One of ordinary skill in the art would have clearly recognized that transmission of digital data such as video requires significant amount of bandwidth. Typically wireless channels exhibits a lower bandwidth and higher error rate than wired channels. In order to provide improved errore rate and more bandwidth for tranmission of digital data such as video, it would have been obvious to one ordinary skill in the art at the time the invention was made to use plurality of traffic channels for video transmission taught by Wu et al. in the video transmission of the system above. By using multiple channels for transmission of digital date, we improve the quality of service and transmit the video signal with less error rate.

5. Claims 8, 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Irvine et al. in view of Wu et al. as applied to claim 1 above, and further in view of Jacquin et al. (US Patent Number 6,625,217).

Regarding claim 8 and 20:

Irvine et al. further discloses:

said transforming operation comprises performing a wavelet transform such that said transform coefficients are wavelet coefficients (paragraph 0008, lines 1-11).

Irvine et al. discloses all of the subject matter as described above except for specifically teaching said coding operation comprises utilizing a zerotree wavelet coding algorithm.

However, Jacquin et al., in the same field of endeavor, teaches said coding operation comprises utilizing a zerotree wavelet coding algorithm (column 1, lines 22-29).

One of ordinary skill in the art would have clearly recognized that generally, two classes of image coding algorithms typically provide excellent performance on images: tree-structured wavelet based algorithms and frequency and space-frequency adaptive algorithms. Both algorithms are very good at exploiting inter-band correlation in wavelet decomposition by efficiently representing strings of insignificant coefficients referred to as zerotrees or spatial hierarchical trees. In order to provide excellent performance on images, it would have been obvious to one ordinary skill in the art at the time the invention was made to use zerotree wavelet coding algorithm taught by Wu et al. in the video transmission of the system above. By using zerotree wavelet coding algorithm, we improve the quality of image. Moreover zerotree coding provides a compact multi-resolution of significance maps and it allow the successful prediction of insignificant coefficients across scales to be efficiently represented.

Allowable Subject Matter

6. Claims 2, 5, 6, 11-13, 24-26, 30 and 31 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record, Irvine et al. does not teach or suggest the distributing operation comprises assigning said coded quadtree coefficient groups to said multiple channels such that contiguous portions of said frame data will be transmitted over different ones of said multiple channels.

The prior art of record, Irvine et al. also does not teach or suggest said coded motion vector blocks to said multiple channels such that adjacent portions of said motion vectors will be transmitted over different ones of said multiple channels.

The prior art of record, Irvine et al. also does not teach or suggest said coded quadtree coefficient groups are distributed among said multiple channels independent from said coded motion vector blocks.

The prior art of record, Irvine et al. also does not teach or suggest determining an unsuccessful transmission of one of said packets; and forming an estimate of said transform coefficients of said one of said packets in response to adjacent ones of said transform coefficients of others of said packets received via others of said multiple channels.

The prior art of record, Irvine et al. also does not teach or suggest generating motion vectors representative of said each video frame; forming blocks of said motion vectors; separately coding said blocks to form coded motion vector blocks; assembling said coded motion vector blocks into second packets; attaching a second packet identifier to each of said second packets; distributing said second packets among said multiple channels; and receiving said second packets at said decoder via said multiple channels, and said reconstructing operation reconstructs said each video frame from said first and second packets in response to said first and second packet identifiers.

The prior art of record, Irvine et al. also does not teach or suggest an estimator in communication with said decoder, wherein upon determination of an unsuccessful transmission of one of said packets, said estimator forms an estimate of said transmitted coded quadtree coefficient groups of said one of said packets in response to adjacent ones of said transmitted quadtree coefficient groups of others of said packets received via said multiple channels.

The prior art of record, Irvine et al. also does not teach or suggest said packets are first packets, said input interface further receives second packets of motion vector blocks, and said decoder reconstructs said second video frames from said first and second packets.

The prior art of record, Irvine et al. also does not teach or suggest determining an unsuccessful transmission of one of said first packets; and forming an estimate of said transform coefficients of said one of said packets in response to adjacent ones of said

transform coefficients of others of said packets received via others of said multiple channels.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kim et al. (US Pub Number 2002/0176025) discloses system and method for encoding redundant motion vectors in compressed video bitstreams, Zhang et al. (US Pub Number. 2003/0043923) discloses system and method for transcoding multiple channels of compressed video stream using a self-contained data unit, Lindstrom et al. (US Patent Number 6,731,712) discloses a fully integrated broadband tuner.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kabir A. Timory whose telephone number is (571) 270-1674. The examiner can normally be reached on Mon - Thu 6:30AM - 4:00PM & Fri 6:30AM - 3:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shuwang Liu can be reached on (571) 272-3036. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kabir A. Timory
April 27, 2007

SHUWANG LIU
SUPERVISORY PATENT EXAMINER